

APPLICANT(S): LEWKOWICZ, Shlomo et al.
SERIAL NO.: 10/536,982
FILED: May 31, 2005
Page 5

REMARKS

The present response is intended to be fully responsive to all points of objection and/or rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of the application is respectfully requested.

Applicants assert that the present invention is new, non-obvious and useful. Prompt consideration and allowance of the claims is respectfully requested.

Status of Claims

Claims 24-27, 29-31 and 35-44 are pending. Claims 24-27, 29-31 and 35-44 have been rejected. Claims 24, 29, 31 and 35 have been amended.

Claims 25-26 and 37 have been canceled without prejudice or disclaimer. In making this cancellation without prejudice, Applicants reserve all rights in these claims to file divisional and/or continuation patent applications.

New claims 45-47 have been added in order to further define embodiments of Applicants' invention. Support for the newly filed claims 45-47 may be found throughout the specification and, for example, in the paragraph [0045] of the Application as published.

Applicants respectfully assert that the amendments to the claims add no new matter.

CLAIM REJECTIONS

35 U.S.C. § 103 Rejections

In the Office Action, the Examiner rejected claims 24-27, 29-31, 35-39 and 42-44 under 35 U.S.C. § 103a, as being unpatentable over Luiken (US Application Publication No. 2001/0055566, now granted Patent No. 6,652,836) in view of Alfano et al. (US Patent No. 6,240,312, "Alfano"). Applicants traverse this rejection at least in view of the remarks that follow.

Luiken discloses:

Methods are provided for in vivo detection of diseased tissue in a subject, such as tumor tissue located in a body opening, by administering to the

subject a biologically compatible fluorescing targeting construct that binds to or is specifically taken up by the diseased tissue. The observer directly views fluorescence emanating from the fluorescing targeting construct bound to or taken up by the diseased tissue upon irradiation of the targeting construct with excitation light ... so as to determine the location and/or surface area of the diseased tissue in the subject. Since excitation wavelength does not penetrate through tissue, as is the practice in near IR diagnostics, the diseased or abnormal tissue is exposed to the excitation light either surgically or by means of an endoscopic device. Preferably a filter is used to filter out any wavelengths in the excitation light greater than about 500 nm. (Abstract, emphasis added)

Thus, Luiken teaches a method for directly viewing diseased tissue using fluorescence marking techniques.

With regard to lightening and viewing techniques Luiken discloses:

Operating rooms can be equipped with an overhead light that produces wavelengths of light in the optical emitting spectrum useful in practice of invention diagnostic methods, such as a black lamp or a Woods lamp (sometimes referred to as "black-light blue"). Such a light can be utilized in the practice of the invention diagnostic methods merely by turning out the other lights in the operating room ... and shining the excitation light into the body cavity or surgically created opening so that the fluorescent image received directly by the eye of the observer (e.g., the surgeon) is predominantly the fluorescent image emanating from the fluorophore(s) in the field of vision. Light emanating from a source in the 401-500 nm range could be filtered to aid in accomplishing the goal of direct visualization by the observer so that light reflecting from the body part, other than that from the fluorescing moiety(ies), is minimized or eliminated. (Column 5 lines 33-50).

Thus, according to Luiken, throughout the examination, the inspected sight is constantly exposed to the excitation illumination, which may or may not be in the visible spectrum.

However, Luiken does not teach or suggest at least "flashing illumination within the GI tract, thereby providing a light period and a dark period; obtaining a white light image of the GI tract tissue during the light period and a successive fluorescent image of the GI tract tissue during the dark period on an image sensor within said ingestible imaging capsule" as recited in Applicants' independent claim 24, as amended (emphasis added). Similarly, Luiken does not teach or suggest at least "activating illumination of the in-vivo imaging capsule in a flashing mode having alternating light and dark periods; capturing light remitted from said

cells during a light period of the flashing mode onto a light detector within the in-vivo imaging capsule, thereby providing a white light image; and capturing light remitted from said cells during a successive dark period of the flashing mode onto the light detector, thereby providing a successive fluorescent image" as recited in independent claim 35, as amended (emphasis added).

Alfano discloses:

Remote-controllable, micro-scale, robotic device for use in diagnosing and/or treating abnormalities inside a human body in vivo. ... 2-dimensional image information and spectroscopic information (e.g., fluorescence, absorption, elastic scattering, Raman, etc.) gathered by the device inside the body are transmitted by video and radio signals to a computer located externally relative to the body. The transmitted information is processed, analyzed and displayed by the external computer for use by the outside operator. (Abstract).

Thus, Alfano teaches gathering image and spectroscopic information in vivo by a micro-scale, robotic device and transmitting this information to an external computer.

However, Alfano does not teach or suggest "obtaining a white light image of the GI tract tissue during the light period and a successive fluorescent image of the GI tract tissue during the dark period" as recited in independent claim 24, as amended (emphasis added). Similarly, Alfano does not teach or suggest at least "capturing light remitted from said cells during a light period of the flashing mode onto a light detector within the in-vivo imaging capsule, thereby providing a white light image; and capturing light remitted from said cells during a successive dark period of the flashing mode onto the light detector, thereby providing a successive fluorescent image" as recited in independent claim 35, as amended (emphasis added).

Paragraph [0025] of the present Application as published describes some benefits of "obtaining a white light image of the GI tract tissue ... and a successive fluorescent image of the GI tract tissue" as "[t]he two images may then be processed, for example by image subtraction, to obtain diagnostic information", or as described in paragraph [0045] of the Application as published: "[a]nalysis of the images may include comparing white light image frames to consecutive ... fluorescent image frames".

An obviousness rejection requires a teaching or a suggestion by the relied upon prior art of all the elements of a claim (M.P.E.P. §2142). Applicant asserts that neither Luiken nor

APPLICANT(S): LEWKOWICZ, Shlomo et al.
SERIAL NO.: 10/536,982
FILED: May 31, 2005
Page 8

Alfano, alone or in combination, teach or suggest the above-described limitations of independent claims 24 and 35, as amended, and thus claims 24 and 35 are allowable over Luiken and Alfano, alone or in combination.

Claims 25-26 and 37 have been canceled without prejudice or disclaimer.

Each of claims 27, 29-31, 36, 38-39 and 42-44 depends from, directly or indirectly, one of claims 24 and 35, and therefore includes all the limitations of one of these claims. Therefore, Applicant respectfully asserts that claims 27, 29-31, 36, 38-39 and 42-44 are likewise allowable.

Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of claims 24-27, 29-31, 35-39 and 42-44 under 35 USC 103(a) as being anticipated Luiken in view of Alfano.

In the Office Action, the Examiner rejected claims 40 and 41 under 35 U.S.C. § 103a, as being unpatentable over Luiken in view of Alfano and further in view of Akashi et al. ("Novel Gastric Cancer Associated Mucin Antigen Defined by A3D4," "Akashi").

Applicants traverse this rejection at least in view of the remarks that follow.

The combination of Luiken, Alfano and Akashi does not teach or suggest all the limitations of independent claim 24, as amended. The combination of Luiken and Alfano has been discussed above and that discussion is applicable here. Each of claims 40 and 41 depends, directly or indirectly, from independent claim 24, as amended, and therefore includes all its limitations. Akashi is also silent as to "obtaining a white light image of the GI tract tissue during the light period and a successive fluorescent image of the GI tract tissue during the dark period" as recited in independent claim 24, as amended. Therefore, Akashi cannot cure the deficiencies of Luiken or Alfano.

Since Luiken, Alfano and Akashi alone or in combination, do not teach or suggest all the elements of independent claim 24, the Examiner fails to establish a prima facie showing that the Luiken, Alfano and Akashi, alone or in combination, teach or suggest every feature of claims 24 and 40 and 41.

APPLICANT(S): LEWKOWICZ, Shlomo et al.
SERIAL NO.: 10/536,982
FILED: May 31, 2005
Page 9

Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of claims 40 and 41 under 35 USC 103(a) as being anticipated Luiken in view of Alfano and further in view of Akashi.

New Claims

Each of new claims 45-47 depends from, directly or indirectly, one of independent claims 24 and 35 which as discussed above are allowable over the prior art rejections of record. Therefore, claims 45-47 are likewise allowable.

Conclusion

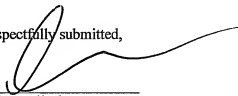
In view of the foregoing amendments and remarks, Applicants assert that the pending claims are allowable. Their favorable reconsideration and allowance is respectfully requested.

Should the Examiner have any question or comment as to the form, content or entry of this Amendment, the Examiner is requested to contact the undersigned at the telephone number below. Similarly, if there are any further issues yet to be resolved to advance the prosecution of this application to issue, the Examiner is requested to telephone the undersigned counsel.

APPLICANT(S): LEWKOWICZ, Shlomo et al.
SERIAL NO.: 10/536,982
FILED: May 31, 2005
Page 10

The fees for the RCE are being paid separately. No other fees are believed to be due in connection with this paper. However, if any such fees are due, please charge any fees associated with this paper to deposit account No. 50-3355.

Respectfully submitted,



Caleb Pollack
Attorney/Agent for Applicant(s)
Registration No. 37,912

Dated: August 4, 2009

Pearl Cohen Zedek Latzer, LLP
1500 Broadway, 12th Floor
New York, New York 10036
Tel: (646) 878-0800
Fax: (646) 878-0801